



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,998	08/10/2006	Hisashi Kizuka	1034232-000042	4614
21839 7590 11/12/2008 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				
EXAMINER				
LSTVOYB, GREGORY				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
11/12/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary

Application No.

10/588,998

Applicant(s)

KIZUKA ET AL.

Examiner

GREGORY LISTVOYB

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 12-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Lepage et al (US 5824765) herein Lepage in combination with Harada et al (US 5686066) herein Harada.

Lepage teaches a polyimide compound (polysuccinimide, based on aspartic acid, which is the same as one of the Application) with polyamine less than 5% lysine (see Column 2, line 35) which is soluble in a solvent containing aprotic polar organic solvent (DMSO, DMF, see Column 3, line 25), where the polyimide compound is obtained by dehydration and condensation of amino acid or salt thereof in the presence of polyamine and protonic acid (phosphoric acid, see Column 2, lines 35 and 60).

Lepage does not explicitly teach that the above polymer is cross-linked.

However, since Applicant and the Reference use the same ingredients (i.e. aspartic acid and lysine), the Lepage's polymer is expected to be cross-linked.

Lepage does not teach that the polymer formation takes place in the media, containing aprotic polar organic solvent. Instead, Lepage discloses bulk polycondensation or reaction in an aqueous media (see Column 3, line 10). He teaches polymer purifying procedure with DMSO and DMF (see Column 3, line 30).

Harada evidences that an aprotic solvent, such as DMF is a good solvent for high molecular weight polysuccinimide (see Column 12, line 50).

Therefore, it would be obvious to a person of ordinary skills in the art to use an aprotic solvent in the polycondensation reaction, since it increases a solubility of the polymer in the media, which prevents premature precipitation of formed polymer from the solution and allows uniform distribution of comonomer and catalyst in the solution.

Regarding Claim 2, since Lepage's and the Applicant's polymer structure are identical, their solubilities are expected to be equal.

In reference to Claim 12, Lepage teaches a solution of polysuccinimide in DMSO and DMF (see Column 3, line 30).

In reference to Claims 13-14, Harada teaches polysuccinimides used in cosmetic (hair-treating) compositions (see Column 1, line 20), due to its good moisture retention,

spreadability. In addition, the water retention ability of polysuccinimides does not depend on pH.

Therefore, it would have been obvious to a person of ordinary skills in the art to use Lepage's polymer in cosmetic compositions, since it possesses good water retention ability, which not depend on pH.

Regarding Claims 17-25, Lepage discloses a succinimide polymer, soluble in DMF, modified with lysine.

Response to Arguments

Applicant's arguments filed 8/01/2008 have been fully considered but they are not persuasive.

Applicant argues that Lepage does not teach a concentration of polyimide compound in the reaction mixture of 5-80% by weight.

However, claim 1 does not teach a composition, contained 5-80% wt of polyimide, but a polyimide. Therefore, the above limitation rather relates to method of polymer preparation, but not to the polyimide itself.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-

process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

In addition, Lepage teaches wide variety of processes, where concentration of a polyamide is within the range of 5-80% wt (see Column 1, line 15), which is achieved with variation of drying agent concentration (i.e. phosphoric acid). The amount of this agent can be determined by an artisan for any specific conditions (Balance between rate of dehydration, which is proportional to Phosphoric acid concentration and problems with Phosphoric acid post-reaction removal should be achieved).

Applicant argues that Lepage does not teach the cross-linked product. However, since Applicant and the Reference use the same ingredients (i.e. aspartic acid and lysine), the Lepage's polymer is expected to be cross-linked. In particular, Lepage teaches any proportions of amino acids in the mixture (see Column 2, line 40), such as aspartic acid, lysine, etc.

Regarding, Applicant argues that Harada's polyimide obtained at conditions, different from Lepage's reaction conditions.

However, Harada teaches that reaction in an aprotic solvent leads to a high molecular weight polysuccinimide (see Column 12, line 50).

Therefore, use of the solvent can be attractive to an artisan, especially when high molecular weight is desirable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **GREGORY LISTVOYB** whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

GL